Ammonium biacetate as a heat storage material

Description of Technology: Ammonium biacetate is a useful material for heat storage applications such as culinary implements, medicinal uses, and solar energy storage.

Patent Listing:

1. **US Patent No. 6,383,409**, Issued May 7, 2002, "Ammonium biacetate as a heat storage material"

http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F6383409

Market Potential: The potential of objects for heat storage is based on a variety of thermodynamic properties. Heat storage potential can be based on the sensible heat of a fluid such as water or the sensible heat of a solid such as stone. Sensible heat is the amount of energy needed to change the temperature of a substance without changing the phase of that substance. Heat storage potential of a material can also be based on the heat of transition of a material as it changes from one physical state to another, e.g., the heat of fusion or heat of vaporization. Additionally, heat storage potential can be determined by a combination of sensible heat and heat of a transition, particularly the latent heat of fusion, using materials such as inorganic salt hydrates, paraffin or organic polymers.

Applicants have developed a heat storage material that has a high heat of fusion, melting range about 65.degree. C., low toxicity, low production expense, and can be used in containers of any shape and size.

The present invention relates to a process of storing heat comprising using ammonium biacetate to store heat energy. This invention also relates to a heat storage device comprising ammonium biacetate and a container for containing the ammonium biacetate. It further relates to a method for holding food or other matter at a constant temperature.

Benefits:

- Use ammonium biacetate as a heat storage material
- Less expensive, less toxicity, and greater versatility than heat storage methods in previous arts

Applications:

- Heat storage

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